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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/276,376	03/25/1999	HOIMAN(RAYMOND) HUNG	AM-3245	2007

32588 7590 07/30/2003  
APPLIED MATERIALS, INC.  
2881 SCOTT BLVD. M/S 2061  
SANTA CLARA, CA 95050

EXAMINER

OLSEN, ALLAN W

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 07/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/276,376

Applicant(s)

HUNG ET AL.

Examiner

Allan W. Olsen

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,2,12-14,16 and 21-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,12-14,16,21-29,31,33,35-41 and 43-45 is/are rejected.
- 7) ☒ Claim(s) 30,32,34 and 42 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### Withdrawn From Issue

A Notice of Withdrawal From Issue, under 37 CFR 1.313(b), was mailed to Applicant on December 2, 2002.

### Allowability Withdrawn

The indicated allowability of claims 1, 2, 12-14, 16, 21-45 is withdrawn. Prosecution is re-opened in view of the following re-asserted rejections.

The following rejections are essentially the same as the rejections that were included in the final rejection 4/26/2002. In response to that final rejection, Applicant filed a CPA on June 13, 2002. The accompanying remarks stated:

*"The CPA of this case is entitled to the benefits of the American Inventors Protection Act of 1999, in particular the provisions of 35 USC §103(c) according to which commonly assigned 102(e) references do not preclude patentability.*

*Accordingly, all the rejections should be removed, and all the claims should be held allowable."*

The American Inventors Protection Act of 1999 includes a provision, by which commonly assigned 102(e) references do not preclude patentability. However, under this provision, when the relevant dates of a commonly assigned reference are such that the reference qualifies as a 102(e) type reference (wherein the "102(e)" characterization is based on dates alone), the reference is disqualified as prior art only within the context of rejections under 35 USC §103(c). If the disclosure of a 102(e) type reference is such that the reference teaches each and every limitation of a pending claim, the reference is a bona fide 102(e) reference that is not disqualified as prior art by virtue of a common ownership. Therefore, the Examiner erred by withdrawing the two 102(e) rejections.

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***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1, 2, 12-14, 16, 21-29, 31, 33, 35-41 and 43-45 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,174,451 (hereinafter, Hung).**

Hung teaches a method to etch an oxide layer overlying a nitride layer with an oxide etching selectivity as high as 30:1. Hung teaches that method may be used to etch an oxide layer that has preformed holes extending downwardly from a top surface thereof and wherein corner features of the oxide layer being etched are exposed at the top of the preformed holes (with reference to the damascene process, as described in U.S. Patent 6,211,092 (Tang et al.)). Hung teaches an etchant comprising C<sub>4</sub>F<sub>6</sub> and a large excess of Ar. Hung teaches that a remote plasma may be used. Hung teaches using an apparatus having an RF antenna adjacent to the plasma chamber. Hung teaches a plasma source power of 1440-1600W and applying a bias power of up to 150% of the plasma source power. Hung teaches a 30% process window for C<sub>4</sub>F<sub>6</sub>. See: fig. 2; col. 7, lines 38-39; col. 8, lines 23-24; col. 9, line 39; col. 11, lines 9, 28-39.

**Claims 21-27, 33, 35 and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,211,092 (hereinafter, Tang).**

Tang teaches etching the claimed structure with C<sub>4</sub>F<sub>8</sub> and Ar. See: figures 5 and 6; column 4, lines 20-30; column 14, line 6.

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***Allowable Subject Matter***

Claims 30, 32, 34 and 42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

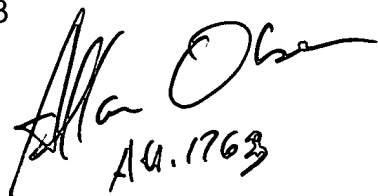
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allan Olsen whose telephone number is 703-306-9075. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck, can be reached on 703-308-2333.

The general fax numbers for TC1700 are 703-872-9310 (non-after finals) and 703-872-9311(after-final).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Allan Olsen, Ph.D.  
April 26, 2003



Handwritten signature of Allan Olsen, with the text "AU. 1763" written below it.